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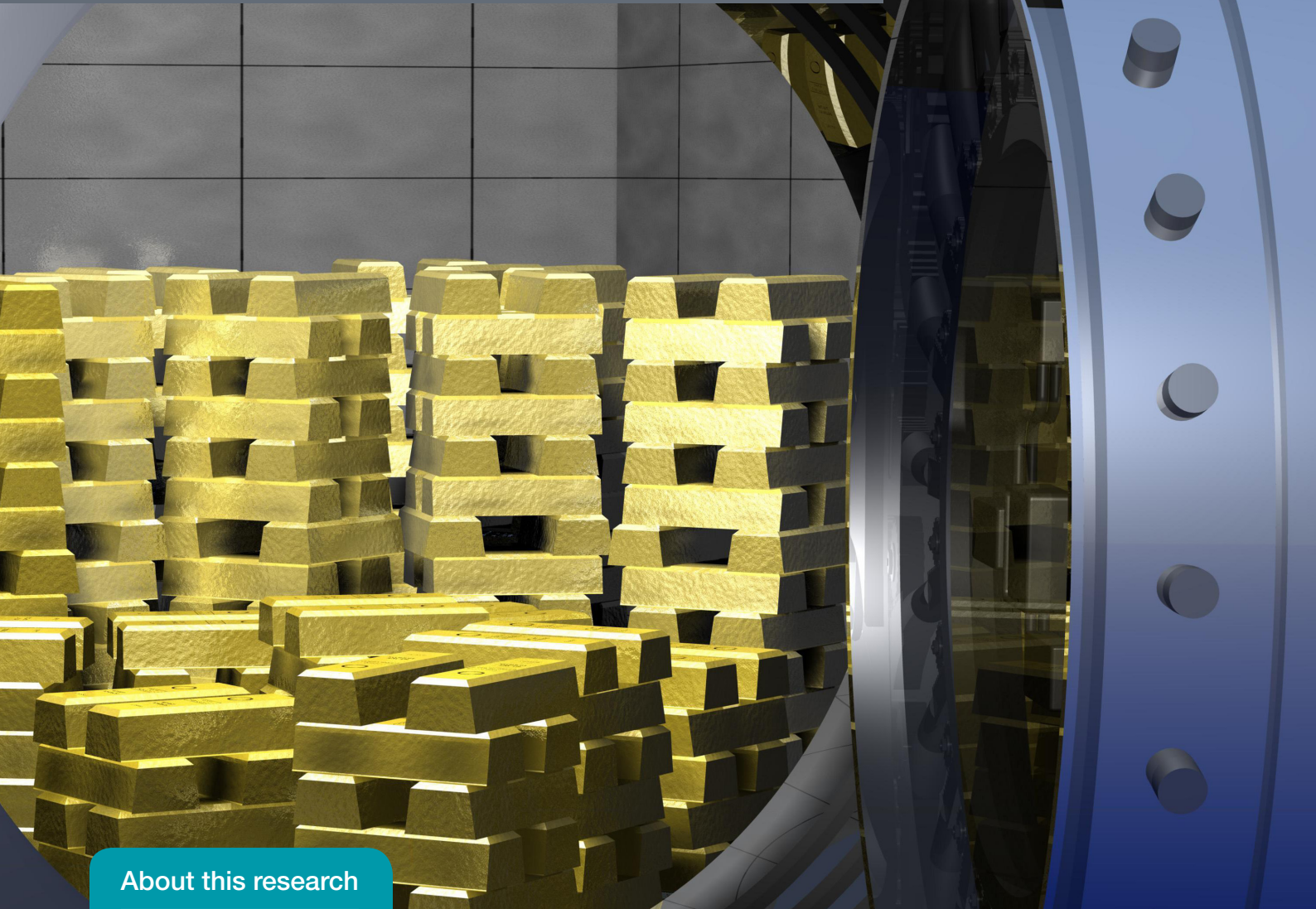
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## A very large gamble: evidence on Quantitative Easing in the US and UK



### About this research

Quantitative Easing (QE) has been used in the UK and US as an unconventional monetary policy response to the financial crisis. QE involves large scale asset purchases by Central Banks, amounting to \$3 trillion in the US and £375 billion in the UK, about 20% of GDP in both countries. But is there any evidence that QE actually works?

Research conducted by Professor Chris Martin at the University of Bath and Professor Costas Milas at the University of Liverpool, has reviewed evidence on the impact of QE. Assessing policy impact from 'event studies' and from econometric models, they analysed the effect on financial markets and on output, employment and inflation. They conclude that QE has produced a limited but probably temporary gain for the financial sector, but that there is little evidence that it has given a significant boost to output or employment.

## Research findings in context

The financial crisis began in July 2007 and threatened to bring down banking systems in major economies in late 2008. Major disruption in the financial sector led to contractions in the supply of credit to the private sector. This resulted in sharp reductions in output and increased unemployment across all major economies. In response, the US Federal Reserve began cutting their interest rate in the 3rd quarter of 2007, followed a year later by other Central Banks. The crisis of October-November 2008 accelerated this process so that, by early 2009, rates were close to zero in all major economies. The depth of the crisis made further loosening of monetary policy essential, however this was not possible using conventional policy as interest rates could fall no further. In this context, QE was introduced as an unconventional monetary policy response to the crisis, initially as a means of supporting the financial system, but increasingly with the aim of boosting aggregate demand.

In the US QE1 program, spread across late 2008-early 2009, \$1.75 trillion of assets were purchased. Further purchases of \$600bn followed in November 2010 with a further \$400bn in September 2011. The Fed announced continuing purchases of \$40bn per month in September 2012 (expanded to \$85bn in December) so long as unemployment remained above 6.5%. QE began in the UK in March 2009, with purchases of £200bn spread across that year. Further rounds of purchases followed in October 2011 (£75bn), February 2012 (£50bn) and July 2012 (a further £50bn).

Have these major policy initiatives worked? They have had an impact on financial markets. Event studies suggest that the first round of QE reduced government bond rates, by up to 100 basis points (bp) in the US and 50bp in the UK (although some Bank of England studies find a larger effect). Econometric studies suggest smaller but still marked effects. However, subsequent rounds of QE seem to have had a smaller effect. It is also likely that the effects were short-term, being reversed several weeks after the initial purchases. Also, the effect of QE on government bond rates should not be overstated. Deeper and more sustained reductions in rates in the US and UK occurred in periods when the continuing crisis in the Eurozone became especially acute.

The impact of QE on the “real economy” is less clear. The financial crisis is a recent event and there is not yet sufficient data on output and employment to conduct a full investigation. Researchers are forced to use data from the pre-crisis period, assuming that the crisis did not disrupt the relationships they estimate. Evaluation

## Key findings

The research found that:

- QE does reduce interest rates on government bonds, especially those of longer duration.
- However, this effect may be temporary and limited if bond rates are already low.
- QE helped to stabilise the financial system in late 2008 and 2009, preventing even larger declines in output than were experienced.
- But there is little evidence that QE has encouraged economic growth.
- Alternative policy options need to be considered.

must also be based on a small number of studies that use a similar methodology. These studies estimate complex statistical models of the economy and infer the effects of QE by comparing forecasts of the model with forecasts from the counterfactual case where QE did not occur, in which case the government bond rate is assumed to be 50-100bp higher than it actually was. Although the estimated effects differ between alternative models, on average it is found that QE resulted in GDP being 1.5-2% higher in 2009 than it would otherwise have been.

There are no estimates of the impact of more recent rounds of QE. However, since the impact of QE in these models works through its impact on the government bond rate, the lack of impact of more recent QE on these rates suggests little impact on the real economy. One clear piece of evidence on the impact of QE comes from the corporate bond market. Evidence suggests that QE reduced corporate bond rates, so firms large and secure enough to access this market could raise finance cheaply. However, this has not resulted in increased investment by these firms. This illustrates how QE has had some impact on financial markets but not on output and unemployment.



## Policy implications

Should Central Banks continue with QE? The evidence suggests that QE was a valuable tool at the height of the financial crisis in 2009. It probably helped stabilise financial markets and contributed to preventing a recession becoming a depression. However QE does not seem to be an effective policy tool for bringing major economies out of stagnation. Alternative ways of stimulating aggregate demand seem to be required. Options such as charging negative interest rates on deposits at the Central Bank, direct lending to the private sector by policymakers and expansionary fiscal policy are promising ways forward.



## Methodology

The research reviews evidence on QE; this is based on two main approaches:

**Event studies:** these use movements in bond rates in the immediate aftermath of policy announcements to assess the impact of QE. They are useful in investigating impacts on financial markets, where high quality, high frequency data is readily available. They are of limited value in assessing impacts on output and employment.

**Econometric studies:** these allow detailed examination of the complex relationships that underpin modern economies and provide a detailed assessment of the effects of QE on both financial markets and the “real economy”. But they are limited by the small amount of data on output and employment in the crisis period. As a consequence, they often use data from before the financial crisis, assuming that the crisis has not disrupted the relationships they analyse.

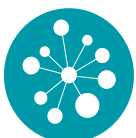
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## More on this research:

Martin, C. and Milas, C. (2012), Quantitative easing: a sceptical survey, *Oxford Review of Economic Policy*, 28(4), pp. 750-764



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